

CLINICAL IMAGING

Minocycline-induced hyperpigmentation

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A 62-year-old male with a long history of rosacea, which was well controlled on minocycline, presented to his primary care physician for routine examination. Physical examination was noted for non-palpable, non-pruritic blue patches of hyperpigmentation on the medial aspects of his lower extremities bilaterally. Recognition and management of the findings are discussed.

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Received: 11 February 2014; Revised: 18 March 2014; Accepted: 21 March 2014; Published: 31 July 2014

Minocycline-induced skin pigmentation is a well-documented dose-dependent side effect of this second-generation tetracycline antibiotic used in treatment for rosacea, with incidence ranging between 3 and 15% (1, 2). Pigmentation most often occurs in the skin, lips, teeth, gingiva, conjunctiva, and sclera. However, it can occur throughout the other organ systems. It is most commonly seen in patient's receiving a total dose of 100–200 mg/day for as little as one year. Other medications that can cause changes in skin pigmentation include but are not limited to anti-malarials, amiodarone, chemotherapeutic agents such as bleomycin, and chlorpromazine (1).

There are four described types of minocycline-induced skin pigmentation. The most common, type I, consists of blue–black macules in the area of scarring or inflammation, most commonly described with facial acne scars. It is likely caused by the deposition in the scars of pigmented granules, thought to be iron chelates of minocycline (3). Type II is described as blue–grey pigmentation on the shins and forearms with previously normal skin, and has been linked to deposition of pigmented metabolites of minocycline (3). Type III (also called dirty skin syndrome) is the least common type, consisting of muddy brown discoloration in sun-exposed areas, typically the face. This type is linked to elevated levels of melanin in epidermal and

dermal macrophages (2, 3). Type IV has the same etiology as type III, but only occurs in pre-existing scars, and is not limited to sun-exposed areas (3).

This patient presented with type II hyperpigmentation as a result of chronic use of minocycline. Treatment typically consists of discontinuing minocycline; however, skin changes may persist in the long-term after cessation. Type III hyperpigmentation can potentially be permanent despite discontinuation of treatment. There have been some isolated reports that have shown improvement in pigmentation during isotretinoin treatment for acne (4). A more recent article by Nisar et al. (5) demonstrated progressive improvement and ultimately resolution after repeated treatments using Q-switched lasers for Type III pigmentation.

Our patient opted to continue his minocycline because for him, control of his rosacea was more important than the side effect of hyperpigmentation; however, this case demonstrates the importance of skin examination to monitor for signs of hyperpigmentation in patients who may require longer durations of minocycline treatment.

References

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